## IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (currently amended): An image processing device, comprising:

a filtering unit configured to filter an input image with variable frequency characteristics;

an edge detection unit configured to detect a magnitude of an edge appearing in the input image;

a degree-of-white-background-likeliness detection unit configured to detect a concentration of white pixels in a binary image obtained by binarizing the input image, and to detect a degree of white-background likeliness in respect of a local area of the input image in response to the detected concentration of white pixels; and

an edge-magnitude-conversion unit configured to convert the detected magnitude of the edge into a filter factor responsive to the detected degree of white-background likeliness,

wherein said filtering unit changes the variable frequency characteristics in response to the filter factor obtained by said edge-magnitude-conversion unit.

Claim 2 (original): The image processing device as claimed in claim 1, wherein said degree-of-white-background-likeliness detection unit marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and marks other areas as non-white-background areas.

Claim 3 (canceled)

Claim 4 (previously presented): The image processing device as claimed in claim 1, wherein said edge-magnitude-conversion unit converts the detected magnitude of the edge such that the variable frequency characteristics enhances high frequency components to an increased degree at edge areas as the degree of white-background likeliness increases.

Claim 5 (previously presented): The image processing device as claimed in claim 1, wherein said filtering unit enhances high frequency characteristics of the variable frequency characteristics at edge areas according to the filter factor, the enhancement of the high frequency characteristics being made relative to the variable frequency characteristics applied to non-edge areas.

Claim 6 (previously presented): The image processing device as claimed in claim 5, wherein said filtering unit includes:

a first filter having a frequency characteristic that is space invariant over all areas of the input image; and

a second filter having a high-frequency-enhancement characteristic, and an output level of the second filter being adjusted in response to the filter factor.

Claim 7 (original): The image processing device as claimed in claim 6, wherein the frequency characteristic of said first filter enhances edges while suppressing generation of moiré in mesh-dot image areas.

Claim 8 (original): The image processing device as claimed in claim 6, wherein said first filter has a band-frequency-enhancement characteristic.

Claim 9 (currently amended): A method of processing an image, comprising:

detecting a magnitude of an edge appearing in an input image;

detecting a concentration of white pixels in a binary image obtained by binarizing the input image to detect a degree of white-background likeliness in respect of a local area of the input image in response to the detected concentration of white pixels;

converting the detected magnitude of the edge into a filter factor responsive to the detected degree of white-background likeliness; and

applying filtering processes to the input image while changing frequency characteristics of the filtering processes in response to the filter factor.

Claim 10 (previously presented): The method as claimed in claim 9, wherein the detecting a degree of white-background likeliness marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and marks other areas as non-white-background areas.

Claim 11 (previously presented): An image processing device, comprising:

a degree-of-white-background-likeliness detection unit configured to detect a concentration of white pixels in a binary image obtained by binarizing an input multi-level image, and to detect a degree of white-background likeliness in respect of a local area of the input multi-level image in response to the detected concentration of white pixels; and

a gray-level conversion unit configured to convert a gray level of the input multi-level image according to conversion characteristics that change in response to the degree of white-background likeliness.

Claim 12 (previously presented): The image processing device as claimed in claim 11, wherein said gray-level conversion unit includes:

a plurality of gray-level conversion units configured to convert the gray level of the input multi-level image according to respective conversion characteristics; and

a selection unit configured to select one of said plurality of gray-level conversion units in response to the degree of white-background likeliness.

Claim 13 (currently amended): The image processing [[unit]] device as claimed in claim 11, wherein said degree-of-white-background-likeliness detection unit is an area detection unit that marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and marks other areas as non-white-background areas.

Claim 14 (currently amended): The image processing [[unit]] device as claimed in claim 13, wherein said area detection unit includes:

a thresholding unit configured to carry out thresholding of the input multi-level image to generate a binary image;

a white-background-area detection unit configured to count white pixels in a given area of the binary image, and to mark the given area of the binary image as a white-background area or a non-white-background area in response to the count; and

an expansion unit configured to spatially expand the white-background area by a predetermined number of pixels in all directions when the white-background area is detected by the white-background-area detection unit.

Claim 15 (original): The image processing device as claimed in claim 14, wherein the predetermined number of pixels and an image resolution (dpi) of the input multi-level image are related as:

150 < (the image resolution (dpi) / the predetermined number of pixels) < 400.

Claim 16 (original): The image processing device as claimed in claim 13, wherein a gray-level conversion characteristic applied to the white-background areas converts an input gray level of the input multi-level image into a greater value than a gray-level conversion characteristic applied to the non-white-background areas in a range of input gray levels above a predetermined gray level.

Claim 17 (original): The image processing device as claimed in claim 13, wherein a gray-level conversion characteristic applied to the white-background areas converts an input gray level of the input multi-level image into a value greater by a constant amount than a value output by a gray-level conversion characteristic applied to the non-white-background areas in a range of input gray levels above a predetermined gray level.

Claim 18 (original): The image processing device as claimed in claim 13, wherein a gray-level conversion characteristic applied to the white-background areas converts an input gray level of the input multi-level image into a maximum gray level in a range of input gray levels above a predetermined gray level.

Claim 19 (currently amended): The image processing device as claimed in claim [[11]] 13, wherein a gray-level conversion characteristic applied to the white-background areas is adjustable by user operation.

Claim 20 (original): The image processing device as claimed in claim 11, wherein the input multi-level image supplied to said degree-of-white-background-likeliness detection unit is an image obtained after a filtering process that has such a frequency characteristic as to smooth isolated dots.

Claim 21 (original): The image processing device as claimed in claim 11, wherein the input multi-level image supplied to said degree-of-white-background-likeliness detection unit is an image obtained after size-change processing.

Claim 22 (previously presented): The image processing device as claimed in claim 13, further comprising:

a block-generation unit configured to divide an area-detected image into a plurality of blocks when the area-detected image is output from said area detection unit;

an area-pixel counting unit configured to count pixels marked as the white-background areas within each of the blocks; and

a check unit configured to mark each of the blocks either as a white-background block or as a non-white-background block in response to the counts obtained by said area-pixel counting unit.

Claim 23 (original): The image processing device as claimed in claim 22, wherein the blocks are square shaped.

Claim 24 (previously presented): An image processing device, comprising:

a plurality of gray-level conversion units configured to convert a gray level of an input multi-level image according to respective gray-level-conversion characteristics;

an area detection unit configured to detect a concentration of white pixels in a binary image obtained by binarizing the input multi-level image so as to detect a degree of white-background likeliness in respect of a local area of the input multi-level image in response to the detected concentration of white pixels, and to detect a boundary area adjacent to a white background in the input multi-level image in response to the detected degree of white-background likeliness; and

a selection unit configured to select one of said plurality of gray-level conversion units in response to a detection result of said area detection unit.

Claim 25 (previously presented): The image processing device as claimed in claim 24, wherein said area detection unit includes:

a thresholding unit configured to carry out thresholding of the input multi-level image to generate a binary image;

a white-background-area detection unit configured to count white pixels in a given area of the binary image, and to mark the given area of the binary image as a white-background area or a non-white-background area in response to the count;

an expansion unit configured to spatially expand the white-background area detected by the white-background-area detection unit; and

an logical AND unit configured to obtain a logical product of the binary image and an image in which white-background areas are expanded by said expansion unit, thereby outputting a binary image indicative of the boundary areas.

Claim 26 (original): The image processing device as claimed in claim 24, wherein a gray-level conversion characteristic applied to the boundary areas converts an input gray level of the input multi-level image into a greater value than a gray-level conversion

characteristic applied to areas other than the boundary areas in a range of input gray levels above a predetermined gray level.

Claim 27 (previously presented): A method of processing an image, comprising:

detecting a concentration of white pixels in a binary image obtained by binarizing an input multi-level image;

detecting a degree of white-background likeliness in respect of a local area of the input multi-level image in response to the detected concentration of white pixels; and

converting a gray level of the input multi-level image according to gray-level conversion characteristics varying depending on the degree of white-background likeliness.

Claim 28 (previously presented): The method as claimed in claim 27, wherein the converting a gray level of the input multi-level image includes:

converting the gray level of the input multi-level image according to different gray-level-conversion characteristics; and

selecting one of outputs of the different gray-level conversion characteristics in response to the degree of white-background likeliness.

Claim 29 (previously presented): The method as claimed in claim 27, wherein the detecting a degree of white-background likeliness marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and marks other areas as non-white-background areas.

Claim 30 (currently amended): An image processing system, comprising:

an image input unit configured to acquire an image;

an edge detection unit configured to detect a magnitude of an edge appearing in the acquired image;

a degree-of-white-background-likeliness detection unit configured to detect a concentration of white pixels in a binary image obtained by binarizing the acquired image, and to detect a degree of white-background likeliness in respect of a local area of the acquired image in response to the detected concentration of white pixels;

an edge-magnitude-conversion unit configured to convert the detected magnitude of the edge into a filter factor responsive to the detected degree of white-background likeliness;

a filtering unit configured to apply a filtering process to the acquired image while changing frequency characteristics of the filtering process in response to the filter factor obtained by said edge-magnitude-conversion unit; and

an image output unit configured to reproduce a filtered image.

Claim 31 (previously presented): The image processing system as claimed in claim 30, wherein said degree-of-white-background-likeliness detection unit marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and marks other areas as non-white-background areas.

Claim 32 (previously presented): An image processing system, comprising:

an image input unit configured to acquire an image;

a degree-of-white-background-likeliness detection unit configured to detect a concentration of white pixels in a binary image obtained by binarizing the acquired image, and to detect a degree of white-background likeliness in respect of a local area of the acquired image in response to the detected concentration of white pixels;

a gray-level conversion unit configured to convert a gray level of the acquired image according to gray-level conversion characteristics varying depending on the degree of white-background likeliness; and

an image output unit configured to reproduce a gray-level converted image.

Claim 33 (currently amended): The image processing system as claimed in claim 32, wherein the gray-level conversion unit includes:

a unit configured to convert the gray level of the ~~input multi-level~~ acquired image according to different gray-level-conversion characteristics; and

a unit configured to select one of outputs of the different gray-level conversion characteristics in response to the degree of white-background likeliness.

Claim 34 (previously presented): The image processing system as claimed in claim 33, wherein said degree-of-white-background-likeliness detection unit marks white backgrounds and boundary areas adjacent to the white backgrounds as white-background areas, and marks other areas as non-white-background areas.